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Substitute for form 1449A/PTO Complete if Known 09/394.867 Application Number INFORMATION DISCLOSURE 9/13/1999 Filing Date STATEMENT BY APPLICANT WILLIAMS First Named Inventor 1632 1437 Group Art Unit (use as many sheets as necessary) **Examiner Name** Maria Marvich Sheet Attorney Docket Number 7037-377 **U.S. PATENT DOCUMENTS** Name of Patentee or Application **Document Number Publication Date** Examiner Cite No.1 Pages, Columns, Lines where MM-DD-YYYY of Cited Document Relevant Passages or Relevant Initials\* Number-Kind Code (if known) Figures Appear 4,727,059 02-01-1988 Binder 4,839,464 06-01-1989 McCarthy 4.980.279 12-01-1990 Peters 5,004,681 04-02-1991 Boyse 5.019.646 05-28-1991 Furcht 5,102,988 04-07-1992 Kimizuka 5,116,368 05-26-1992 McCarthy 5,124,155 06-23-1992 Reich 5,175,096 12-29-1992 Hook 5,188,959 02-23-1993 Haberman 5,198,423 03-30-1993 Taguchi 5,229,172 A1 07-20-1993 Cahalan et al 5,299,172 03-29-1994 Badger 5,409,825 04-25-1995 Hoffman

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		"Bubble i	Boy sa	ved by gene therapy	", BBC News, April 3, 2000			
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		Ganand	Publist 	ing Co., New York	ltular Matrix", Molecular Biolo		983, pp. 673-713,	
		ANDERS	ON, W	/. FRENCH, "Prospe	cts for Human Gene Therap	<i>r</i> ".		
		NO. 256,	PD. 8U	5-813 	Gene Therapy - SCIENCE",			
		Hematob Hematolo	oietic ( av 19	Selis: Effect of Sele	al Gene Transfer of Human A ctable Marker Sequences on	Long-Term Exp	ression", Amer. Soc.	
		VOI./ISSU	3 NO. 5	1, pp. 531-554	te-Specific Receptors of the		,	
		DIDI., 198	7, VOI.	/Issue No. 105, pp. 4				
		No. 91. p	activa n. 350-	teu progenitors witho 354	ne transfer into hematopoieti out marrow ablation", Proc. N	atl. Acad. Sci. U	SA, 1994, Vol./Issue	
•		into CD34	ronkey I+ Bon	· Hematopoietic Cell: e Marrow Cells*  Blo	n vivo expression of a Murine s of Multiple Lineages After R od. 1993. Vol. (Issue No. 82)	letroviral-mediate	ed Gene Transfer	
		Vol./Issue	nster ii No. 8	7 pp 3738-3742	opment of a High-Titer Retro Hematopoietic Stem Cells", I	Proc. Natl. Acad.	Sci. USA, 1990,	
	BRADLEY, T.R. ET AL., *The Growth of Mouse Bone Marrow Cells in Vitro*, Aust. J. Exp. Biol. Med. Sci., 1966, Vol./Issue No. 44, pp. 287-300							
	BROXMEYER, H.E. ET AL., "Umbilical Cord Blood Hematopoietic Stem and Repopulating Cells In Human Clinical Transplantation", Blood Cells, 1991, Vol./Issue No. 17, pp. 313-329							
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CARTER, ET AL., "Autologous Tra Genetically Marked by Retroviral V					ectors", Blood, 1992, Vol./Iss	ue No. 79:2, pp. 3	356-364		
		No. 23. n	ıster. n. 187	implications for hum -194	ulfate as an effective alternati an gene therapy", Journal of	Virological Metho	ods, 1989, Vol./Issue		
		No 90 n	iivery a p. 212	ing Expression in Pi 2-2126	Gene Therapy: Adenovirus I rimary Hepatocytes", Proc. N	ati. Acad. Sci. US	SA, 1993, Vol./Issue		
		numan ne	emato)	poletic peripheral bio	ast growth factor increases re cod progenitor cells", Exp. He	matol, 1994, Vol.	/Issue No. 22:12,		
		in Gyneci	ologica —	ir Cancers <sup>-</sup> , Hum. R	teinizing Hormone Releasing eprod., 1994, Vol./Issue No. 9	9:7, pp. 1364-137	<b>'</b> 9		
		NO. 14, p	p. 515	-531	Collagen V and XI Molecule				
		23/8. pp.	ion wit 934	n an MUR1-encodin	d resistance to taxol for perip gretroviral vector", Exp. Hen	natol., 1995, Vol./	Issue No. Abstract		
		Gene Tra	nsfer".	Blood January 2	Ex Vivo Expansion and Selection of a Mutated Dihydrofol 1995, Vol./Issae No. 85:2, no.	ate Reductase c[ 566-574	DNA via Retroviral		
		1276-128	ANN, I	HEODORE, "Progre	ess Toward Human Gene The	erapy", SCIENCE			
		John Wile	or Ge	netics, , vol./issue i ons_New York	"Somatic-Cell Tene Therapy No. Chapter 24 Genetic Engir	ering and the F	ugure, pp. 645-648,		
GLUCKMAN, E. ET AL., "Bone Marrow Transplantation in Fanconi Anaemia", British J. of Haem., 1980, Vol./Issue No. 45, pp. 557-564									
	HANENBERG, A. ET AL., "Rapid and efficient transduction of primitive hematopoletic cells; role of retrovirus adhesion in fibronectin assisted gene transfer", Blood, 1995, Vol./Issue No. 86:10, pp. 465a								
		HARAGU 1994, Vol	CHI E	T AL., "Effects of Po No. 10:2, pp. 114	lycations on Infection with Hu	ıman Retroviruse	s", Int. Conf. AIDS,		
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	HODGSON, CLAGUE P. ET AL., "Virosomes: Cationic Liposomes Enhance Retroviral Transduction", Nature Biotechnology, 1996, Vol./Issue No. 14, pp. 339-342											
·		HOGGE, DONNA E. ET AL., "The Elusive Peripheral Blood Hemotopietic Stem Cell", Seminars in Nematology, 1993, Vol./Issue No. 30:4 Supp. 4, pp. 82-89										
			HOSHINO, K, "Effects of polycations on infection of human retroviruses", Working Group on Structure and function of HIV, "Working Report of 1993", 1994, Vol./Issue No. Partial Translation, pp. 24-27									
			Breast Ca	ancer,	The Lancet, 1995,	Vol./Issue No. 345, pp. 29-30						
<u> </u>			Lancet, J	uly 11,	1992, VOLISSUE N	o. 340, pp. 73-76	ngterm haemopoietic cultures",					
			KARLSS Transfer	ON, ST , Blood	TEFAN, "Treatment I, 1991, Vol./Issue N	of Genetic Defects in Hemato lo: 78:10, pp. 2481-2492	ppoietic Cell Function by Gene					
			Interactio	ns", So	dence, 1994, Vol./Is	sue No. 266, pp. 1373-1376	Vectors Through Ligand-Receptor					
			Expresse	a in Es	schenchia coli", J. B	iochem., 1991, Vol./Issue No						
			Hum. Kep	proa., 1	1994, Vol./Issue No.	9 Supp. 1, pp. 181-189 \	east Cancer With Antiprogestins*,					
			Using HL 419-422	A-Mato	thed Sibling Umbilio	al Cord Blood Cells", British J	ell Kansplant in Fanconi Anaemia J. Haem., 1993, Vol./Issue No. 85, pp.					
	KORNBLIHTT, A.R., ET AL, "Isolation and characterization of cDNA clones for humans and bovine fibronectin", Proc. Natl. Acad. Sci. USA, 1983, Vol./Issue No. 80:11, pp. 3218-3222											
			polypepud No. Abstr	e chai	ins differing in the ni 114, on 5853-5868	umber of internal repeats", Nu	emative mRNA splicing generates ucleic Acids Res., 1984, Vol./Issue					
	KORNBLIHTT, A.R., ET AL, "Human fibronectin: molecular cloning evidence for two mRNA species differing by an internal segment coding for a structural domain", EMBO J., 1984, Vol./Issue No. Abstract 3/1, pp. 221-226											
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		generate 1759	at leas	st 10 polypeptides fro	ry structure of human fibrone om a single gene", EMBO J.,	1985, Vol./Issue	No. 4:7, pp. 1755-				
		7:10 pp	al Enzy 3459-1	me in Murine Hema 3465	ed Gene Transfer of Human A topoletic Stem Cells in Vivo",	Mol. Cell. Biol.,	1987, Vol./Issue No.				
	LIM, ET AL., "Long-Term Expression Of Human Adenosine Deaminase In Mice Transplanted With Retrovirus-Infected Hematopoietic Stem Cells", Proc. Natl. Acad. Sci. U.S.A., 1989, Vol./Issue No. 86, pp. 8892-8896										
		pp. 288-3	301		ytoadhesion Molecules", Exp		·				
		with high of fancor	efficier i anem	ncy by a retroviral ve na complement c ge	or cells purified from cryopre ector and expanded ex vivo w ne" Blood, 1994, Vol./Issue	ith stable integrat	tion and expression				
		Mediated 396-402	, B.D., Gene	Transfer Into Murine	Factor, Interleukin-3, and Inte Hematopoietic Stem Cells",	rleukin-6 Promot Blood, 1992, Vol	e Retrovirai- I./Issue No. 80:2, pp.				
		Different	Plasm	ids", J. Virol., 1988, \	ackaging Line for Gene Tran Vol./Issue No. 62:4, pp. 1120	-1124					
		MARKOV Line", Vir	VITZ, [ ology,	D. ET AL., "Construct 1988, Vol./Issue No.	tion and Use of a Safe and E 167, pp. 400-406	fficient Amphotro	opic Packaging Cell				
		marrow n	nicroen	ivironment"; Blood C	f primitive human myeloid an cells, 1994, Vol./Issue No. 20	1, pp. 121-128					
		Glycoper	tide Li 12-620	gand for the Asialogi	ed Delivery of DNA Using YE lycoprotein Receptor", Biocor	ijugate Chem., 19	994, Vol./Issue No.				
MOORE, KATERI A. ET AL., "Stromal Support Enhances Cell-Free Human Bone Marrow Long-Term Culture-Initiating Cells", Blood, 19: 1399							No. 79:6, pp. 1393-				
		MOORE, Abstract:	M.A., I Dublin	ET AL., "Gene Thera , Ireland, Sept. 18-2	apy: New Frontiers, an Interna 1, 1994, pp. 1-2	ational Symposiu	m", Meeting	P			
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MOORE, MALCOLM A.S., "Ex vivo Blood Cells, 1994, Vol./Issue No. 20					o expansion of cord blood-der 20, pp. 468-481	ived stem cells and progenitors",			
		Birknausi	er, Bos	ston, US		ure Prediction*, 1994, pp. 492-495,			
		105-KD P	rotein	', J. Exp. Med., 19	92, Vol./Issue No. 175, pp. 104		Q		
		Bone Ma	ebrosi rrow T	dase Gene in Mice	troviral Vector" Proc Natl Ac	hages Following Transplantation of			
		Metastaic	umo	or", Human Gene T	Therapy, 1994, Vol./Issue No. !				
		Dinerenti	ation",	Science, 1984, Vo	ol./Issue No. 224, pp. 996-998				
		expressin	ig c-kii	", Exp. Hematol., 1	1993, Vol./Issue No. 21, pp. 74				
		RUOSLA Methods	HTI, E in Enz	., "Fibro-nectin: Po ymology, 1982, Vo	urification, Immunochemical P I./Issue No. 82, pp. 803-831	rification, Immunochemical Properties, and Biological Activities", /Issue No. 82, pp. 803-831			
		3/5-413				chem., 1988, Vol./Issue No. 57, pp.			
		Bio. Chen	n., 198	31, Vol./Issue No. 2	256, pp. 7277-7281	ains in The Fibronectin Molecule", J.			
	SAIKI, IKUO ET AL., "Inhibitory effect of fibronectin and its recombinant polypeptides on the adhesion of metastic melanoma cells to Laminin", Jpn. J. Cancer Res., 1991, Vol./Issue No. 82, pp. 1112-1119								
	SEKIGUCHI, K. ET AL., "Human Liver Fibronectin Complementary DNAs: Identification of Two Different Messenger RNAs Possibly Encoding the α and β Subunits of Plasma Fibronectin", Biochemistry, 1986, Vol./Issue No. 25, pp. 4936-4941								
SHIH, C-C., ET AL., "Highly Preferred 53, pp. 531-537					red Targets for Retrovirus Inte	egration", Cell, 1988, Vol./Issue No.	9		
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		3095	-Geion	in Conjugate", Journ	oxins: Preparation and Chara nal of Biological Chemistry, 1	989, Vol./Issue N	lo. 264:6, pp. 3089-			
		SORRENTINO, BRIAN P. ET AL., "Selection of Drug Resistant Bone Marrow Cells in Vivo After Retrovial Transfer of Human MDR1", SCIENCE, July 3, 1992, Vol./Issue No. 257, pp. 99-100								
		intitiating	SUTHERLAND ET AL., "Characterization and Partial Purification of Human Marrow Cells Capable of nitiating Long-Term Hematopoiesis In Vitro", Blood, 1989, Vol./Issue No. 74-5, pp. 1563-1570							
		Homoloo	of the	electively Expressing Strel Gene Product	) the Membrane-Bound and ( Stem Cell Factor   Proc. No.	Secreted Forms	of the Human			
		Oncology	, Nove	mber 1994, Vol./Issu	Post-chemotherapy Tamoxi ue No. 8/11, pp. 39-43	en in Early Brea	st Cancer*,			
		immunoa	eticien	cy virus", Fems: mn	uman plasma fibronectin with nunol. Med. Microbiol., 1994,	Vol./Issue No. 8	i-2, pp. 127-131			
		Indiodiasc	s and r	ibronectin", Blood, 1	focential binding of erythroid 987, Vol./Issue No. 69-6, pp.	1587-1594				
		68:7 pp	Proteii 4609-4	n to Redirect the Ho: .619	"Modifications in the Binding st Range of Retroviral Vector	s", J. Virol., 1994	I, Vol./Issue No.			
		USA 199	2. Vol	s Transplanted With /Issue No. 89 no. 76	Long-Term Expression of Hu Retrovirus-Infected Bone-Ma 340-7644	rrow Cells", Proc	c. Natl. Acad. Sci.			
		ribronecti	in", Exp	permental Hematolo	erence of Murine Hernatopole gy, 1994, Vol./Issue No. 22,	pp. 1236-1243	bsets to			
	VARMUS, HAROLD, "Retroviruses", SCIENCE, June 10, 1988, pp. 1427-1434									
	VERFAILLIE, C.M., ET AL., "Differentiation of Primitive Human Multipotent Hematopoletic Progenitors Into Single Lineage Clonogenic Progenitors is Accompanied by Alterations in Their Interaction with Fibronectin". J. Exp. Med. 1991. Vol./Issue No. 174, pp. 693-703									
WAGNER, J.E. ET AL., "Transplantation of Umbilical Cord Blood After Myeloblastive Therapy.  Analysis of Engraftment", Blood, 1992, Vol./Issue No. 79:7, pp. 1874-1882										
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		WATT ET AL., "Adhesion Receptors are differentially expressed on Developing Thymocytes and Epithelium in Human Thymus", Experimental Hematology, 1992, Vol./Issue No. 20, pp. 1101-1111								
		Deamina	26. RI	ocnemi	istry, 1986, V	plete Sequence and Structure of the Gene for Human Adenosine Vol./Issue No. 25, pp. 8234-8244				
•		Interactio	ins", Na	ature, 1	997, VOI./ISS	ue No. 352, pp. 438-441	atopoietic Stem Cell-Microenvironment			
		suspensi	on cuit	ure", Bl	ood Cells, 19	94, Vel/Issue No. 20, pp. 4	·			
		Proc. Na	arter C L Acad	D34+ I I. Sci. I	rematopoletic JSA 1995 V	cell transduction with cell-front	ucocerebrosidase gene in nonhuman ee retroviral vector preparations", 976			
		patients (	HENGusing a	i, ET Al clinica 94. Vol	, "Correction ily acceptable ./Issue No. 2	n of the enzyme deficiency in e retroviral supernatant trans 2 pp. 223-230	n heroatopoietic cells of Gaucher duction protocol*, Experimental			
	_	mice", G	ene in	erapy,	1994, Vol./Iss 	sue No. 1:2, pp. 99-107	tent expression of human factor IX in			
		ZIEGLER Blood, 19	R, B.L. 1 192, Vo	ET AL., I./Issue	"Phenotype No. 80 Supp	analysis of umbilical cord (C b. 1, pp. 408A	B) blood CD34 cell subpopulations",			

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•	4,727,059				02-	01-1988 Binder			
	4,839,464					01-1989	McCarthy		
	4,980,279 5,904,681				12-	01-1990	Peters		
					04-	02-1991	Boyse		
	5,019,646			05-	28-1991	Furcht			
		5,102,988			04-	07-1992	Kimizuka		
		5,116,368			05-	26-1992	McCarthy		
		5,124,155				23-1992			•
		5,175,096			12-	29-1992	Hook		
		5,188,959			02-	23-1993	Haberman		
		5,198,423			03-	30-1993	Taguchi	- -	
		5,229,172		A1	07-	20-1993	Cahalan et al		
		5,299,172			03-	29-1994	Badger		
		5,354,686			10-	11-1994	Haberman		
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				ion and the Extraceing Co., New York	llular Matrix", Molecular Biolo	gy of the Cell, 198	33, pp. 673-713,	
		*Bubble B	Boy sav	red by gene therapy	", BBC News, April 3, 2000			C
		ANDERS	ON, F.	, "Human Gene The	erapy", Nature, Apr. 30, 1998	Vol./issue No. 39	92 Supp., pp. 25-30	C
		ANDERS No. 256, p			n Gene Therapy - SCIENCE"	SCIENCE, May 8	3, 1992, Vol./Issue	C
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	- "	Hematopo	oietic C		al Gene Transfer of Human A ectable Marker Sequences or			
		ASHWEL	L, G. E		te-Specific Receptors of the	Liver", Ann. Rev. I	Biochem, 1982,	E
				AL., "Lymphoid Pre /Issue No. 105, pp.	cursor Cells Adhere to Two D 489-498	ifferent Sites on F	ibronectin", J. Cell	
		of in vitro	activat	ed progenitors with	ene transfer into hematopoiet out marrow ablation. Proc. N	atl. Acad. Sci. US	A, 1994, Vol./Issue	
		Rhesus M	fonkey I+ Bon	Hematopoletic Celle Marrow Celle Black	in vivo expression of a Murine is of Multiple Lineages After F and 1993. Vol./Issue No. 82:	etroviral-mediate	d Gene Transfer	
		BODINE, Gene Tra Vol./Issue	DAVIE nsfer in	DM., ET AL., "Devento Rhesus Monkey 7. pp. 3738-3742	lopment of a High-Titer Retro Hematopoietic Stem Cells",	virus Producer Ce Proc. Nati. Acad.	Sci. USA, 1990,	
		BRADLE	Y, T.R.	ET AL., "The Grow Issue No. 44, pp. 28	th of Mouse Bone Marrow Ce 37-300	ells in Vitro", Aust	J. Exp. Biol. Med.	C
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					nsplantation of Canine Long- ectors", Blood, 1992, Vol./Iss					
		CORNETTA, ET AL., "Protamine sulfate as an effective alternative to polybrene in retroviral-mediated gene-transfer: implications for human gene therapy", Journal of Virological Methods, 1989, Vol./Issue No. 23, pp. 487-194								
		CRISTIA	NO, R. livery a	J., ET AL., "Hepation of Expression in P	patic Gene Therapy: Adenovirus Enhancement of Receptor-Mediated in Primary Hepatocytes", Proc. Natl. Acad. Sci. USA, 1993, Vol./Issue					
		DILBER,	MS. E ematop	T AL., "Basic fibrob	oblast growth factor increases retroviral-mediated gene transfer into blood progenitor cells", Exp. Hematol, 1994, Vol./Issue No. 22:12,					
		EMONS,	G. ET		steinizing Hormone Releasing Reprod., 1994, Vol./Issue No.	g Hormone Agonists and Antagonists 9:7, pp. 1364-1379				
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		FLASSHO Blood Pro	OVE, Nogenito	r Cells After Introdu		ction of Human CD34+ Peripheral late Reductase cDNA via Retroviral				
			NN, T			erapy", SCIENCE, June 1989, pp.				
GARDNER, ELTON JOHN ET AL., "Somatic-Cell Tene Therapy Treatment of Human Diseases", Principles of Genetics, , Vol./Issue No. Chapter 24 Genetic Engineering and the Fogure, pp. 645-648 John Wiley & Sons. New York						Treatment of Human Diseases", neering and the Fogure, pp. 645-648,				
		GLUCKM	AN, E.	ET AL., "Bone Ma No. 45, pp. 557-56		oni Anaemia", British J. of Haem.,				
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			HARAGUCHI ET AL., "Effects of Polycations on Infection with Human Retroviruses", Int. Conf. AIDS, 1994, Vol./Issue No. 10:2, pp. 114, Abstract PA0337					
		HODGSO Nature Bi	ON, CL iotechn	AGUE P. ET AL., "Vology, 1996, Vol./is:	firosomes: Cationic Liposome sue No. 14, pp. 339-342	es Enhance Retroviral Transduction",		
	HOGGE, DONNA E. ET AL., "The Elusive Peripheral Blood Hemotopietic Stem Cell", Seminars in Hematology, 1993, Vol./Issue No. 30:4 Supp. 4, pp. 82-89							
	HOOGERBRUGGE, P.M. ET AL., "Bone marrow gene transfer in three patients with adenosine deaminase deficiency", Gene Therapy, 1996, Vol./Issue No. 3, pp. 179-183							
	HOWELL, A. ET AL., "Response to a Specific Antioestrogen (ICI 182780) in Tamoxifen—Resistant Breast Cancer", The Lancet, 1995, Vol./Issue No. 345, pp. 29-30							
				AL, "Growth of hum 1992, Vol./Issue No		ngterm haemopoietic cultures",		
		KARLSSO Transfer*	ON, ST , Blood	EFAN, "Treatment of 1991, Vol./Issue N	Of Genetic Defects in Hemato o. 78:10, pp. 2481-2492	ppoietic Cell Function by Gene		
		KASAHAI Interaction	RA, N. ns", Sc	ET AL., "Tissue-Spetience, 1994, Vol./Iss	ecific Targeting of Retroviral sue No. 266, pp. 1373-1376	Vectors Through Ligand-Receptor		
		Expresse	d in Es	cherichia coli", J. Bi	ochem., 1991, Vol./Issue No.			
		KLIJN, J. Hum. Rep	G.M. E prod., 1	T AL., "Pre-Clinical : 994, Vol./Issue No.	and Clinical Treatment of Bre 9 Supp. 1, pp. 181-189	east Cancer With Antiprogestins*,		
	KOHLI-KUMAR, M. ET AL., "Haematopoietic Stem/Progenitor Cell Transplant in Fanconi Anaemia Using HLA-Matched Sibling Umbilical Cord Blood Cells", British J. Haem., 1993, Vol./Issue No. 85, pp. 419-422							
		Opinion in	Pedia	trics, 1995, Vol./Issi	ue No. 7, pp. 56-63	Hematopoietic Stem Cells", Current		
						ctin: differential splicing may 1985, Vol./Issue No. 4:7, pp. 1755-		
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			KORNBLIHTT, A.R., ET AL, "Isolation and characterization of cDNA clones for humans and bovine fibronectin", Proc. Natl. Acad. Sci. USA, 1983, Vol./Issue No. 80:11, pp. 3218-3222						
		KORNBLIHTT, A.R., ET AL, "Human fibronectin: molecular cloning evidence for two mRNA species differing by an internal segment coding for a structural domain", EMBO J., 1984, Vol./Issue No. Abstract 3/1, pp. 221-226							
	KORNBLIHTT, A.R., ET AL, "Human fibronectin: cell specific alternative mRNA splicing generates polypeptide chains differing in the number of internal repeats", Nucleic Acids Res., 1984, Vol./Issue No. Abstract 12/14, pp. 5853-5868								
LIM, B., ET.AL., "Retrovirus-Mediated Gene Transfer of Human Adenosine Deaminase: Expression of Functional Enzyme in Murine Hematopoietic Stem Cells in Vivo", Mol. Cell. Biol., 1987, Vol./Issue No. 7:10, pp. 3459-3465							inase: Expression of 1987, Vol./Issue No.		
LIM, ET Al, "Long-Term Expression Of Human Adenosine Deaminase In Mice Transplanted With Retrovirus-Infected Hematopoietic Stem Cells", Proc. Natl. Acad. Sci. U.S.A., 1989, Vol./Issue No. 100, 8892-8896						9, Vol./Issue No. 86,			
		LONG, M pp. 288-3	ICHAI 01	EL W., "Blood Cell (	Cytoadhesion Molecules", Ex	o. Hematol, 1992,	Vol./issue No. 20,		
		with high	efficie	ncy by a retroviral v	itor cells purified from cryopre ector and expanded ex vivo v ene". Blood, 1994, Vol./Issue	vith stable integrat	tion and expression		
		LUSKEY, Mediated 396-402	B.D., Gene	ET AL., "Stem Cell Transfer Into Murin	Factor, Interleukin-3, and Int e Hematopoietic Stem Cells"	erleukin-6 Promot , Blood, 1992, Vol	e Retroviral- I./Issue No. 80:2, pp.		
		Line", Viro	ology,	1988, Vol./issue No					
					Packaging Line for Gene Trail Vol./Issue No. 62:4, pp. 112		Viral Genes on Two		
MCGLAVE P. ET AL., "Interaction of primitive human myeloid and lymphold progent marrow, microenvironment", Blood Cells, 1994, Vol./Issue No. 20:1, pp. 121-188						entors with the			
		MERWIN, Glycopepi 5:6. pp. 6	tide Li	gand for the Asialog	ted Delivery of DNA Using YI glycoprotein Receptor*, Bioco	Delivery of DNA Using YEE(GalNAcAH)3, a Synthetic oprotein Receptor, Bioconjugate Chem., 1994, Vol./Issue No.			
		MILLER, A 357, pp. 4			Therapy Comes of Age", Na	ture, June 11, 199	92, Vol./Issue No.		
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	MOORE, KATERI A. ET AL., "Stromal Support Enhances Cell-Free Rectroviral Vector Transduction of Human Bone Marrow Long-Term Culture-Initiating Cells", Blood, 1992, Vol./Issue No. 79:6, pp. 1393-1399							
MOORE, M.A., ET AL., "Gene Therapy: New Frontiers, an International Symposium", Meeting Abstract: Dublin, Ireland, Sept. 18-21, 1994, pp. 1-2								
	MOORE, MALCOLM A.S., "Ex vivo expansion of cord blood-derived stem cells and progenitors", Blood Cells, 1994, Vol./Issue No. 20, pp. 468-481, Meeting Abstract							
	MORITZ, T. ET AL ., "Bone Marrow Extracellular Matrix Molecules Improve Gene Transfer into Human Hematopoietic Cells via Retroviral Vectors", J. Clin. Invest., 1994, Vol./Issue No. 93, pp. 1451-1457							
	MORITZ, T. ET AL., "Human Cord Blood Cells as Targets For Gene Transfer: Potential Use In Genetic Therapies Of Severe Combined Immunodeficiency Disease", J. Exp. Med., 1993, Vol./Issue No. 178 op. 529-536							
		NGO, J. THO	MAS	ET AL., "Compu	itational Complexity, Protein S lem and Tertiary Structure Pr	Structure Prediction, and the Levinthal rediction, 1994, pp. 491-495		
					ation of VLA-4 on T Cells Stin 2, Vol./Issue No. 175, pp. 104	nulates Tyrosine Phosphorylation of a 15-1053		
		Glucocerebro	sidas	e Gene in Mice a		ression of the Human nages Following Transplantation of ad. Sci. Usa. 1992. Vol./Issue No. 89		
		PATEL ET AL	L., "Ge	eneration of intel		a Cell Populations from Resected		
					of Murine Erythroleukemia C /Issue No. 224, pp. 996-998	ells to Fibronectin During Erythroid		
-					tin Receptor on Mammalian E al Regulation", J. Cell Biol., 19	Erythroid Precursor Cells: 986, Vol./Issue No. 102, pp. 449-456		
		REISBACH, ( expressing c-	G. ET kit", E	AL., "Characteri xp. Hematol., 19	zation of hemopoietic cell pop 93, Vol./Issue No. 21, pp. 74	pulations from human cord blood -79		
Mh						modified HIV-specific cytotoxic T ol./issue No. 2:2, pp. 216-223		
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		RUOSLA 375-413	HTI, E	., "Fibronectin and I	ts Receptors", Ann. Rev. Bio	chem., 1988, Vol./Issue No. 57, pp.			
		RUOSLA Methods	HTI, E in Enz	., "Fibro-nectin: Pur ymology, 1982, Vol.	rification, Immunochemical P /Issue No. 82, pp. 803-831	roperties, and Biological Activities",			
	RUOSLAHTI, E. ET AL., "Alignment Of Biologically Active Domains in The Fibronectin Molecule", J. Bio. Chem., 1981, Vol./Issue No. 256, pp. 7277-7281  SAIKI, IKUO ET AL., "Inhibitory effect of fibronectin and its recombinant polypeptides on the adhesion of metastic melanoma cells to Laminin", Jpn. J. Cancer Res., 1991, Vol./Issue No. 82, pp. 1112-1119								
	SEKIGUCHI, K. ET AL., "Human Liver Fibronectin Complementary DNAs: Identification of Two Different Messenger RNAs Possibly Encoding the α and β Subunits of Plasma Fibronectin", Biochemistry, 1986, Vol./Issue No. 35, pp. 4936-4941								
			C., ET	AL., "Highly Preferre		egration", Cell, 1988, Vol./Issue No.			
						octerization of Ovine Luteinizing 989, Vol./Issue No. 264:6, pp. 3089-			
						Bone Marrow Cells in Vivo After ol./Issue No. 257, pp. 99-100			
		SUTHER Initiating	LAND Long-T	ET AL., "Characteria erm Hematopoiesis	zation and Partial Purification In Vitro", Blood, 1989, Vol./I	of Human Marrow Cells Capable of ssbe No. 74-5, pp. 1563-1570			
		TOKSOZ ET AL., "Support of Human Hematopoiesis in Long-Term Bone Marrow Cultures by Muring Stromal Cells Selectively Expressing the Membrane-Bound and Secreted Forms of the Human Homolog of the Steel Gene Product. Stem Cell Factor." Proc. Natl. Acad. Sci. USA. 1992. Vol./Issue							
		TOLCHER, A.W., "Current Status of Post-chemotherapy Tamoxifen in Early Breast Cancer", Oncology, November 1994, Vol./Issue No. 8/11, pp. 39-43							
TORRE, D. ET AL., "Interaction of human plasma fibronectin with viral proteins of human immunodeficiency virus", Fems. Immunol. Med. Microbiol., 1994, Vol./Issue No. 8-2, pp. 12									
		TSAI, SC fibroblasts	HWICH s and fi	(WANN ET AL., "Di ibronectin", Blood, 1	fferential binding of erythroid 987, Vol./Issue No. 69-6, pp	and myeloid progenitors to . 1587-1594			
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		Rhesus M	Monkey	s Transplanted with	"Long-Term Expression of Hu Retrovirus-Infected Bone-Ma 640-7644	rrow Cells", Proc	. Natl. Acad. Sci.			
		VAN DER SLUIJS, "Differential Adherence of Murine Hernatopoietic Stem Cell Subsets to Fibronectin", Experimental Hernatology, 1994, Vol./Issue No. 22, pp. 1236-1243								
	VARMUS, HAROLD, Retroviruses", SCIENCE, June 10, 1988, pp. 1427-1434									
		Into Sing	le Line	age Clonogenic Pro	., ET AL., "Differentiation of Primitive Human Multipotent Hematopoietic Progenitors e Clonogenic Progenitors is Accompanied by Alterations in Their Interaction with p. Med., 1991. Vol./Issue No. 174, pp. 693-793					
MM		VERMA, 389, pp. 3			promises, problems, and pro-	species, Nature, 1	1997, Vol./Issue No.			
					ation of Umbilical Cord Blood 92, Vol./Issue No. 79:7, pp. 1		ive Therapy:			
					imbilical cord blood transplan o. Abstract, pp. 82-86a	tation: Report of	results in 26			
					s are differentially expressed erimental Hematology, 1992,					
					olete Sequence and Structure ol./Issue No. 25, pp. 8234-82		luman Adenosine			
		Interactio	ns", Na	ature, 1991, Vol./Iss	prioctin and VLA-4 in Haemal ue No. 362, pp. 438-441					
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	XU, LINGHENG, ET AL., "Correction of the enzyme deficiency in hematopoietic cells of Gaucher patients using a Clinically acceptable retroviral supernatant transduction protocol", Experimental Hematology, 1994, Vol./issue No. 22-pp. 223-230							
YAO ET AL., "Primary myoblast-mediated gene transfer: persistent expression of human factor IX in mice", Gene Therapy, 1994, Vol./Issue No. 1:2, pp. 99-107						stent expression of human factor IX in		
				T AL., "Phenotyp I/Issue No. 80 Su		CB) blood CD34 cell subpenulations",		

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Min					, BBC News, April 3, 2000			
VVIIV	"Cell-Cell Adhesion and the Extracellular Matrix", Molecular Biology of the Cell, 1983, pp. 873-713,							
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1,114		ANDERSO	-4(0 DN. W	FRENCH Human	Gene Therapy - SCIENCE	SCIENCE May	R 1007 VAL (Inches	+
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mm		Hematopo Hematolog	iatic (	Cells: Effect of Sele	al Gene Transfer of Human A ectable Marker Sequences of	Long-Term Exp	ression", Amer. Soc.	
mm.		ASHWELL Vol./Issue	., G. E No. 6	T AL., *Carbohydra 1, pp. 531-554	te-Specific Receptors of the	Liver", Ann. Rev.	Biochem, 1982,	
MΜ		Biol., 1987	, Vol.	/lesus No. 108, pp.				
MM		of in vitro e	ectival	diiw eratinegorq bet	ne transfer into hematopolet out marrow ablation*, Proc. N	ic stem celts: Lon lati. Acad. Sci. U	ng-term maintenance SA, 1994, Vol./Issue	
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W	BRADLEY, T.R. ET AL., "The Growth of Mouse Bone Marrow Cells in Vitro", Aust. J. Exp. Biol. Med. Sci., 1966, Vol./leque No. 44, pp. 287-300							
MM		Human Cit	nicai '	Fransplantation*, Blo	cal Cord Blood Hernatopoiat ood Cella, 1991, Vol./Issue N	o. 17, pp. 313-92	9 :	
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MM		gene-trans	efer. 1 187	mplications for hum 194	Ilfate as an effective atternati an gene therapy", Journal of	Virological Metho	ds, 1989, VolJissue	
MM		Gene Dell	Very 8	nd Expression in Pr 2-2126	Gene Therapy: Adenovirus i Imary Hepatocytes", Proc. N	ali. Acad. Sci. US	A, 1993, Vol./Issue	
MW	DILBER, MS. ET AL., "Basic fibroblast growth factor Increases retrovtral-mediated gene transfer into human hematopoietic peripheral blood progenitor cells", Exp. Hematol, 1894, Vol./issue No. 22:12, pp. 1129-1133							
hun:		EMONS, ( In Gyneco	G. ET logice	AL., "The Use of Lu I Cancers", Hum. R	teinizing Hormone Releasing eprod., 1994, Vol./Issue No. 1	Hormone Agonis 9:7, pp. 1364-137	its and Antagonists 9	
MM		FICHARD No. 14, pp	ET A	L., "Another Look at 531	Collagen V and XI Molecule	s", Mattx Biology,	1994; Vol./issue	
MM		transducti	on wit 234	h an MDR1-encodin	d resistance to taxol for perip g retroviral vector", Exp. Hen	atol., 1995, Vol./	Issue No. Abstract	
MW		Blood Pro	genito	r Cells After Introdu	Ex Vivo Expansion and Selection of a Mutated Dihydrofol 1995 Vol /(sque No. 85:2, pp.	sta Reductase cD	D34+ Peripheral DNA via Retroviral	
MW		FRIEDMA 1276-1281	NN, T	HEODORE, "Progre	ess Toward Human Gene The	erapy", SCIENCE	, June 1989, pp.	
MIX		_Principles	<del>of Co</del>	TON JOHN ET AL., natics, , Vol/Issue I ons. New York	Somatic-Cell Tene Therapy Vo. Chapter 24 Genetic Engli	Treatment of Hun neering and the F	nan <u>Diseeses",</u> ugure, pp. 845-848,	
WM	GLUCKMAN, E. ET AL., "Bone Marrow Transplantation in Fanconi Anaemia", British J. of Haern., 1980, Vol./issue No. 45, pp. 557-564							
WW		HANENBE retrovirus	RG, A	A. ET AL., "Rapid ar Ion in fibronectin as	d efficient transduction of pri elsted gene transfer", Blood,	mitive hematopol 1995, Vol./Issue I	etto cells; role of No. 86:10, pp. 465s	D
Whi				TAL., "Effects of Po No. 10:2, pp. 114	lycations on Infection with H	ıman Retroviruse	s", Int. Conf. AIDS,	
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m			Lancat, J	uly 11,	1992, V	ol/lasue No	nan umbilical cord b . 340, pp. 73-78				
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han			Using HL 419-422	A-Matc	hed Side	ng Umblike		', British J.	Haem., 1993, V	ol./Issus No. 85, pp.	
un		KORNBLIHTT, A.R., ET AL, "Isolation and characterization of cDNA clones for humans and bovine fibronectin", Proc. Natl. Acad. Sci. USA, 1983, Vol./Issue No. 80:11, pp. 3218-3222									
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mm		Retroviru	s-Infec 8898	ted Hemato	poletic S	n Of Human Adenosine Dea Stern Cells", Proc. Natl. Acad	l. Sci. U.S.A., 198	9, Vol/Issue No. 86,		
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MM		Different	Plasmi	ds", J. Virol.	, 1988, '	ackaging Line for Gene Tran Vol./Issue No. 62:4, pp. 112	<b>-</b> 1124			
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im	MILLER, A. DUSTY, "Human Gene Therapy Comes of Age", Nature, June 11, 1992, Vol/Issue No.									
WIV	MOORE, KATERI A. ET AL., "Stromal Support Enhances Cell-Free Rectroviral Vector Transduction of Human Bone Marrow Long-Term Culture-Initiating Cells", Blood, 1992, Vol./Issue No. 79;8, pp. 1393-1399									
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MM		NGO, ET Al, 'The Protein Folding Problem and Tertiary Structure Prediction', 1994, pp. 492-498, Birkhäuser, Boston, US							
im					gation of VLA-4 on T Cells Stin 92, Vol./Issue No. 175, pp. 104		Phosphorylation of a		
MW		OHASHI, T., ET AL., "Efficient Transfer and Sustained High Expression of the Human Glucocerebrosidase Gene in Mice and Their Functional Macrophages Following Transplantation of Bone Marrow Transduced by a Retroviral Vector, Proc. Natl. Acad. Sci. Lisa. 1992. Vol. (Issue No. 89)							
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mm		RUOSLA Methoda	HTI, E In Enz	., "Fibro-nectin: P ymology, 1982, Vo	urification, immunochemical Pr N./Issue No. 82, pp. 803-831	operties, and Bio	logical Activities",	0	
mm		RUOSLA 375-413	HTI, E	, "Fibronectin and	Its Receptors', Ann. Rev. Bloc	hem., 1988, Vol.	/Issue No. 57, pp.		
mm		Blo. Che	m., 198	1, Vol./Issue No.	int Of Biologically Active Doma 288, pp. 7277-7281			0	
MAN		of metas	tic met	anoma cells to Lar	fect of fibrenectin and its recorninin', Jpn. J. Cancer Res., 19	91, Vol./lasue No	. 82, pp. 1112-1119	0	
MM		Different	Messe	ngar RNAs Possit	Liver Fibronectin Complements by Encoding the α and β Subur 25, pp. 4936–4941				
mm		SHIH, C- 53, pp. 5	C., ET	AL., "Highly Prefe	rred Targets for Retrovirus Inte	gration", Cell, 19	88, Vol./Issue No.		
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MM	,	SORREN	CORRENTINO, BRIAN P. ET AL., "Selection of Drug Resistant Bone Marrow Cells in Vivo After Lebovial Transfer of Human MDR1", SCIENCE, July 3, 1992, Vol./Issue No. 257, pp. 99-100							
MM		Initiating	JTHERLAND ET AL., "Characterization and Partial Purification of Human Marrow Cells Capable of tiating Long-Term Hemstopolesis In Vitro", Blood, 1988, Vol./Issue No. 74-5, pp. 1583-1570							
mm		Stromal (  Homotog	OKSOZ ET AL., "Support of Human Hematopolesis in Long-Term Bone Marrow Cultures by Muring Stromal Cells Selectively Expressing the Membrane-Bound and Secreted Forms of the Human Inmotor of the Steel Gene Product Stem Cell Factor" Proc. Natl. Agart. Sci. USA 1992 Vol. (Issue							
MM		Oncology	R, A.W ; Nove	mber 19	nt Status of 94, Vol./Issu	Post-chemotherapy Tamo:	dfan in Early Brea	st Cancer",		
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WM		fibroblast	e and f	lbronecti	n", Blood, 1	fferential binding of erythrol 987, Vol./Issue No. 69-6, p	o. 1587-1594			
MM		VALSESI Envelope 68:7 no	Protei	n to Redi	S. ET AL, rect the Ho	"Modifications in the Bindin st Range of Retroviral Vect	g Domain of Avier ora", J. Virol., 199	Retrovirus I, Vol/lesus No.		
MM		Rhesus M	lonkey 2 Vol	a Transp Nasue N	lanted with	Long-Term Expression of H Retrovirus-Infacted Bone-N 540-7644	larrow Cells", Proc	. Natl. Acad. Scl.		
MM		VAN DEF Fibronect	R SLUI. in", Ex	IS, "Diffe periment	rential Adhi al Hematolo	erence of Murine Hematopo gy, 1994, Vol./Issue No. 22	, pp. 1236-1243	rbeets to	0	
MM	VARMUS, HAROLD, "Retroviruses", SCIENCE, June 10, 1988, pp. 1427-1434									
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MM		WAGNER, patients", E	AGNER, J.E. ET AL., "Allogenic umbilical cord blood transplantation: Report of results in 26 tients", Blood, 1993, Vol./Issue No. Abstract, pp. 82-86a								
ha		WATT ET	VATT ET AL., "Adhesion Receptors are differentially expressed on Developing Thymocytes and pithelium in Human Thymus", Expertmental Hematology, 1992, Vol./Issue No. 20, pp. 1101-1111								
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MM		WILLIAMS Interactions	, DAV e", Na	ID A. ET AL., "Fibi ture, 1991, Vol./las	ronectin and VLA-4 in Haems sue No. 352, pp. 438-441	topoietic Stem Cell-Microenvironment					
mm		XIAO, M. E suspension	T AL.	, "Extensive prolife ire", Blood Cells, 1	rative capacity of single isola 994, Vol./Issue No. 20, pp. 49	ted CD34 human cord blood calls in 55-487	o				
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MM		IYAO ET AL	_, "Pr	imary myoblast-me	ediated gene transfer: persis sue No. 1:2, pp. 99-107	tent expression of human factor IX in					
MM		ZIEGLER, I Blood, 1992	B.L. E 2, Vol	TAL, "Phenotype Assue No. 80 Sup	enalysis of umbilical cord (C p. 1, pp. 408A	B) blood CD34 cell subpopulations*,					

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